Corporate Valuation Exercise

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The goal of this exercise is to gain some hands-on experience in three standard investment banking valuation tools:

- Discounted cash flow analysis (DCF)

- Comparable companies analysis ("Comps")

- Precedent transactions analysis (sometimes called "Transaction comps")

- The spreadsheet *jamieson.xls* contains data and templates for the completion of the valuation analyses. The *financials* worksheet has already been completed, and provides Jamieson's financial statements (balance sheet, income statement, cash flow statement and debt & cash schedules), both historic (2006 – 2009) and projected (2011 – 2015).

- *Appendix 1.pdf* provides definitions and explanations of common accounting and valuation terminology that might be helpful for your analysis.

- For this exercise, you will use the following assumptions:

  - 50million shares are to be issued.
  - Jamieson's current debt is limited to short term borrowings; both debt and cash balances may be found on the balance sheet
  - Jamieson's corporate tax rate may be assumed to be 40%.
  - You may assume that the appropriate riskfree rate is 2.5%, and the market risk premium is 9%.

Discounted Cash Flow (DCF) analysis

The *DCF* worksheet provides a template for the DCF valuation analysis. You will find the following guidelines helpful for completing this valuation model.

CAPITAL ASSET PRICING MODEL (CAPM)

The CAPM is the "standard" market model for estimating the expected (or required) rate of return, $E[r_e]$, for corporate valuation purposes. The CAPM model states that:

$$E[r_e] = r_f + \beta_e \, (E[r_m] - r_f)$$

where
r_f = the risk free rate
$E[r_m]$ = the expected rate of return on the "market" portfolio
β_e = the assumed average[1] equity beta of the company's peer group

Note: $(E[r_m] - r_f)$ is sometimes called the "market risk premium" since it reflects the difference in required return between the risky market portfolio and the riskless rate.

Convert from $E[r_e]$ to weighted average cost of capital (WACC) using the following formula:

$$WACC = r_d \, (1 - T) \, D/(D + E) + r_e \, E/(D + E)$$

where
D = Total Debt (Jamieson's only debt is short term borrowing, found on the balance sheet)
E = book value of equity (also found on the balance sheet)
T = corporate tax rate
r_d = the interest rate on the company's debt

Templates for scenario analysis of company value using alternative WACC rates (base case +/- 1%) are provided in the DCF worksheet.

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[1] Bankers may sometimes use median, rather than mean, comparable beta, especially if the distribution of values is skewed.

TERMINAL VALUE

The Terminal Value represents the present value (as of the final estimation year) of all future expected cash flows beyond the model's explicit estimation period. Terminal value may be calculated in several ways.

Method 1: Exit Multiple model

This methodology assumes that the company is valued as if it were to be sold at the end of the estimation period. In this case, the company's value is estimated as a multiple of its revenues, EBITDA, or other accounting value from the final estimation year (2015). Typically the multiple used is the average (median) of the company's peers' multiples. Templates for scenario analysis of company value using alternative EBITDA multiples (base case +/- 2) are provided in the DCF worksheet.

Method 2: Perpetuity Growth Model

This methodology assumes that the company will continue to grow at a constant rate in perpetuity. Given FCF_n , the free cash flow in the final estimation year, the Terminal Value is given by:

$$(TV_n) = FCF_n (1 + g) / (E[r] - g) \quad where \ \ g = \text{the constant rate of growth.}$$

Given the Terminal Value calculated using the EBITDA multiple method, we can thus back out the perpetuity growth rate g implied by that Terminal Value.

Comparable Companies Analysis

The trading comparables have been provided in the *trading comps* worksheet. This methodology values the company relative to its "peers"—other, similar companies selected on the basis of product mix, size (as measured by revenue, EBITDA, etc.), geographic scope, and so on. The Trading Comps worksheet provides summary accounting information and multiples for a range of corporations. Use median multiples (Revenue, EBITDA and P/E as applicable) to estimate appropriate values for Jamieson.

Comparable Transactions Analysis

The *precedent transactions* worksheet provides a list of potentially relevant recent M&A transactions in the sector. Please select the transactions you feel are the most relevant precedents, and ascertain the appropriate multiple that you believe Jamieson should garner from a strategic buyer. Keep in mind outliers that may skew your data, and eliminate precedents you do not feel are relevant.